



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/942,445	08/30/2001	Toshimichi Kurihara	14872	7920
23389	7590	03/31/2004	EXAMINER	
SCULLY SCOTT MURPHY & PRESSER, PC 400 GARDEN CITY PLAZA GARDEN CITY, NY 11530			BEREZNY, NEMA O	
			ART UNIT	PAPER NUMBER
			2813	

DATE MAILED: 03/31/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/942,445	KURIHARA ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Nema O Berezny	2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 27 February 2004.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,3,5,7,9,11,13,15,17,19-22 and 24 is/are pending in the application.
- 4a) Of the above claim(s) 19-21 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1,3,5,7,9,11,13,15,22 and 24 is/are rejected.
- 7) Claim(s) 17 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 30 August 2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>02272004</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION*****Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3, 5, 7, 9, 11, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Switky et al. (5,270,262) in view of Yamauchi (5,266,739). Switky discloses a semiconductor device comprising: a radiating plate (Figs.1-5 el.14); a semiconductor chip (el.16) bonded onto the radiating plate (Figs.1, 5); a rectangular-shaped resin wall (el.15; Fig.5) which surrounds the semiconductor chip bonded to the radiating plate, said rectangular-shaped resin wall having a first pair of opposing sides and a second pair of opposing sides (Fig.5); a conductive member (el.13) extending through one of the first pair of opposing sides of the resin wall and retained by the resin wall (Fig.3C), said conductive member is electrically connected (el.18) to the semiconductor chip; and a lid (el.11) bonded to an upper end of the resin wall, said semiconductor chip is sealed in a space enclosed by said radiating plate, said resin wall and said lid (Fig.2), said radiating plate extends outward of said second pair of opposing sides of said resin wall (Fig.2). However, Switky does not disclose a lid comprising resin. Yamauchi discloses a resin lid (Figs.1-5 el.16). Therefore, it would have been obvious to a person skilled in the art at the time of the invention to use the resin lid and

resin wall bonding of Yamauchi with the semiconductor device of Switky in order to form the walls and lid in the same step using the same material, and thereby save time and money [claim 1].

Switky also discloses wherein a resin wall (el.12) is fitted to protruding parts or recessed parts provided on the radiating plate (Fig.3B) [claim 3]; wherein the recessed parts are provided on the opposed side parts of the radiating plate, the protruding parts are protruded and provided on the inner surfaces of the recessed parts, and the lower end part of the resin wall is buried in the recessed parts (Fig.3B) [claim 5]; wherein holes (el.23) are provided in the conductive member and said holes are located in the outside positions of the resin wall (el.15) on the conductive member (Fig.5; col.6 lines 21-23) [claim 7]; wherein first holes (el.23) are provided in the conductive member and said first holes are located in the outside positions of the resin wall (el.15) on the conductive member (Fig.5; col.6 lines 21-23), and second holes or cutouts are provided in the region extending through the resin wall of the conductive member (Fig.8) [claim 9]; wherein the first holes are arranged so as to overlap the space area between the second holes or cutouts when the conductive member is seen in the resin wall (el.15) direction from the outside of the resin wall (Figs.2,5,7) [claim 11]; wherein a stepped part to be fitted to the inner periphery of the resin wall is provided on the lid (Fig.2) [claim 13]; wherein the lid has a vertically plane symmetric shape (Fig.2) [claim 15]; wherein the radiating plate has end portions formed integrally at both ends of a center portion of the radiating plate, the lower end of the resin wall (el.15) is bonded to said center portion, and said end portions are exposed through the resin wall (Fig.3B) [claim

22]; and wherein said conductive member is broader on the inside of said resin wall (Fig.3B el.15) [claim 24].

***Allowable Subject Matter***

The following is a statement of reasons for the indication of allowable subject matter for claim 17. The prior art of record does not teach or disclose a radiating plate that comprises a silver plated surface finish that adjoins the resin wall, and a gold plated surface finish elsewhere on the radiating plate, as well as gold plated conductive members, in addition to the elements of claim 1.

Ellenberger et al. (4,925,024) discloses gold plated leads of a lead frame only (col.3 lines 54-63). Otsuki et al. (5,653,891) discloses a heat sink that is silver plated everywhere, except where it is adjoined to a resin surface (col.12 lines 35-51).

Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

Applicant's arguments with respect to claims 1, 3, 5, 7, 9, 11, 13, 15, 17, 22, and 24 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nema O Berezny whose telephone number is (571) 272-1686. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NB



ERIK J. KIELIN  
**PRIMARY EXAMINER**